We claim:

1. A process for preparing a multimetal oxide composition M of the stoichiometry I

$$Mo_1V_aM^1_bM^2_cM^3_dM^4_eO_n \qquad (I),$$

where

M^1 = at least one element from the group consisting of Te and Sb;
M^2 = at least one element from the group consisting of Nb, Ti, W, Ta, Bi, Zr and Re;
M^3 = at least one element from the group consisting of Pb, Ni, Co, Fe, Pd, Ag, Pt, Cu, Au, Ga, Zn, Sn, In, Ce, Ir, Sm, Sc, Y, Pr, Nd and Tb;
M^4 = at least one element from the group consisting of Li, Na, K, Rb, Cs, Ca, Sr, Ba;
a = 0.01 to 1,
b = ≥0 to 1,
c = > 0 to 1,
d = ≥0 to 0.5,
e = ≥0 to 1 and
n = a number which is determined by the valence and abundance of elements other than oxygen in (I),

in which a mix solution is produced continuously in a solvent from the required starting compounds of the elemental constituents of the multimetal oxide composition M, the mix solution is fed continuously into a drying apparatus for removing the solvent and the solid obtained is treated thermally at elevated temperature, with the thermal treatment comprising a calcination at from 200 to 1 200°C, wherein at least two physically separate part solutions each containing partial amounts of the required starting compounds of the elemental constituents of the multimetal oxide composition M in dissolved form are firstly prepared, at least two part solution streams are produced from the two or more part solutions, the two or more part solution streams are combined to form a total solution stream, the total solution stream is passed through a mixing zone in which a mix solution stream comprising the total amount of the required starting compounds

in dissolved form is formed, the mix solution stream is either broken up into fine droplets in the mixing zone or the mix solution stream is discharged from the mixing zone and then broken up into fine droplets, the fine droplets of mix solution are dried by contact with hot gas and the solid obtained is treated thermally at elevated temperature, with the thermal treatment comprising a calcination at from 200 to 1 200°C.

2. A process as claimed in claim 1, wherein the solids content of the mix solution stream, expressed as total content of the metals present, is from 1 to 30% by weight.

3. A process as claimed in claim 1, wherein the solids content of the mix solution stream, expressed as total content of the metals present, is from 5 to 20% by weight.

4. A process as claimed in any of claims 1 to 3, wherein the solvent used is an aqueous solvent.

5. A process as claimed in any of claims 1 to 4, wherein the temperature of the two or more part solution streams is from 15 to 40°C.

6. A process as claimed in any of claims 1 to 4, wherein the temperature of the two or more part solution streams is from 20 to 30°C.

7. A process as claimed in any of claims 1 to 6, wherein the number of part solutions is from 2 to 5.

8. A process as claimed in any of claims 1 to 7, wherein the process from the time at which combination of the two or more part solution streams to form a total solution stream is commenced until the breaking-up of the mix solution stream is complete takes less than two minutes.

9. A process as claimed in any of claims 1 to 7, wherein the process from the time at which combination of the two or more part solution streams to form a total solution stream is commenced until the breaking-up of the mix solution stream is

complete takes less than thirty seconds.

10. A process as claimed in any of claims 1 to 7, wherein the process from the time at which combination of the two or more part solution streams to form a total solution stream is commenced until the breaking-up of the mix solution stream is complete takes less than twenty seconds.

11. A process as claimed in any of claims 1 to 10, wherein a = 0.05 to 0.6.

12. A process as claimed in any of claims 1 to 11, wherein b = 0.01 to 1.

13. A process as claimed in any of claims 1 to 12, wherein c = 0.01 to 1.

14. A process as claimed in any of claims 1 to 13, wherein d = 0.0005 to 0.5.

15. A process as claimed in any of claims 1 to 14, wherein

a = 0.1 to 0.6;
b = 0.1 to 0.5;
c = 0.1 to 0.5;
d = 0.001 to 0.5 and
e = $\geq$0 to 0.5.

16. A process as claimed in any of claims 1 to 15, wherein at least 50 mol% of M^2 is Nb and/or Ta.

17. A process as claimed in any of claims 1 to 16, wherein M^3 is at least one element from the group consisting of Ni, Co, Fe and Pd.

18. A process as claimed in any of claims 1 to 17, wherein M^1 = Te, M^2 = Nb and M^3 is at least one element from the group consisting of Ni, Fe, Co and Pd.

19. A process as claimed in any of claims 1 to 18, wherein at least one part solution comprises at least one added finely divided diluent material from the group

consisting of silicon dioxide, titanium dioxide, aluminum oxide, zirconium oxide and niobium oxide.

20. A process for the heterogeneously catalyzed partial gas-phase oxidation and/or ammoxidation of saturated and/or unsaturated hydrocarbons, wherein a multimetal oxide composition M obtained by a process as claimed in any of claims 1 to 19 is used as active composition.

21. A multimetal oxide composition M obtainable by a process as claimed in any of claims 1 to 19.